Central Valley Regional Water Quality Control Board
7/8 June 2012 Board Meeting

Response to Comments
for
Linda County Water District
Wastewater Treatment Plant
Tentative Waste Discharge Requirements and
proposed Order Amending Time Schedule Order No. R5-2011-0056

The following are Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (NPDES Permit Renewal) and proposed Order amending Time Schedule Order R5-2011-0056 for Linda County Water District, Wastewater Treatment Plant, in Yuba and Sutter Counties. Public comments regarding the tentative Orders were required to be submitted to the Central Valley Water Board by 23 April 2012 in order to receive full consideration.

The Central Valley Water Board received timely comments regarding the proposed Orders from the following interested parties:

- Linda County Water District (Discharger) and
- Central Valley Clean Water Association (CVCWA) and

The submitted comments were accepted into the record, and are summarized below, followed by Central Valley Water Board staff responses.

DISCHARGER COMMENTS

DISCHARGER COMMENT NO. 1. Copper Effluent Limitation

The Discharger requests that a reopener provision be included in the proposed NPDES to allow permit modification of final effluent limitations for copper based on the findings of a water effects ratio study, translator study, and/or the mixing zone validation study.

> **Response:** The proposed NPDES Permit presently contains a reopener for both a water effects ratio study and a translator study under section VI.C.1.f Water Effects Ratios (WER) and Metal Translators. Section VI.C.1.i contains the reopener for the mixing zone validation study; additional language was added for a reopener based on acute and/or chronic mixing zones.

DISCHARGER COMMENT NO. 2. Dichlorobromomethane Effluent Limitation

The Discharger comments that the upgraded facility will have difficulty meeting the proposed final limits for dichlorobromomethane. The Discharger further states that the impacts of the upstream process upgrades, in particular the removal of ammonia via

nitrification in the activated sludge process, dramatically altered the chemistry of the disinfection process that resulted in greater disinfection efficacy but also significant formation of dichlorobromomethane. The Discharger also states that the new facility is still operating under startup phase, and as such, has yet to optimize chlorine usage, and thus reduce the potential for disinfection byproduct formation (e.g. dichlorobromomethane). Therefore, the Discharger is requesting that the full human health dilution credit of 347:1 be applied to the dichlorobromomethane criterion of 0.56 µg/L, which equates to average monthly and maximum daily effluent limitations of 139 µg/L and 253 µg/L, respectively. The Discharger states that the anticipated performance-based results will be considerably lower, and therefore, the Discharger suggests that the proposed NPDES Permit include a reopener provision that would allow the Central Valley Water Board to reopen and modify the dichlorobromomethane effluent limitations if after twelve months of new monitoring data demonstrates that the full dilution credit is not needed.

The Discharger also requests that the Central Valley Water Board establish a time schedule for bringing the discharge into, and to require the Discharger to prepare a disinfection optimization work plan.

Response: Central Valley Water Board staff appreciates the Discharger's efforts and difficulties in optimizing the new treatment system's nitrification processes efficacy while minimizing disinfection byproducts formation. Two effluent monitoring samples obtained during this start-up phase indicated concentrations of dichlorobromomethane at 9.4 µg/L and 10.2 µg/L, which exceeds the final effluent limitations contained in existing Order R5-2006-0096 (and thus in the tentative NPDES Permit) of 2.6 µg/L as a monthly average and 5.3 µg/L as a maximum daily.

The Discharger requested a mixing zone to the point of complete mixing located approximately 3700 feet downstream of the side-bank discharge and a dilution credit of 347:1 for dichlorobromomethane. However, as required by section 1.4.2.2 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), the mixing zone must be as small as practical. Additionally, the degradation to the receiving water downstream of the mixing zone, due to the less stringent effluent limits and increased loading, must be in accordance with State and federal antidegradation policies.

Although the Antidegradation Policy does not apply within a mixing zone, the allowance of a mixing zone allows an increase in the concentration and loading of pollutants discharged. Therefore, when a mixing zone and dilution credits are allowed, it is necessary to ensure the degradation of the available receiving water capacity downstream of the mixing zone complies with the Antidegradation Policy (See Response to CVCWA Comment No. 1). Therefore, in lieu of allowing the full dilution credit of 347:1, the proposed NPDES Permit establishes performance-based effluent limitations to comply with which the Discharger is able to comply. By reducing the dilution to what is achievable with current plant performance, maintaining and optimizing BPTC, is in accordance with the Antidegradation Policy.

The maximum observed effluent concentration (MEC) out of the two samples obtained during the start-up period is 10.2 µg/L. The *Technical Support Document for Water Quality-Based Toxics Control* ((EPA/505/2-90-001), TSD) recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. However, the multipliers in Table 5-2 of the TSD, based on a default Coefficient of Variation (CV) of 0.6, were used to calculate performance-based effluent limitations with which the Discharger is able to comply. Thus, the proposed NPDES Permit contains less stringent dichlorobromomethane effluent limitations of 22 µg/L as a monthly average and 32 µg/L as a maximum daily based on a dilution credit of about 40:1.

The newly proposed dichlorobromomethane effluent limitations are based on the projected maximum effluent concentrations of the facility's current performance. Therefore, a performance-based interim limit is not necessary since the new limits are established for the Discharger to be able to immediately comply. Moreover, per the requirements of California Water Code Section 13385(j)(3), a time schedule and interim effluent limitations may be granted if the effluent limitations are new more stringent limits. The dichlorobromomethane effluent limitations in the proposed NPDES Permit are less stringent than the dichlorobromomethane limits contained within existing Order R5-2006-0096. Therefore, the accompanying proposed Time Schedule Order does not contain a compliance schedule for the Discharger to comply with the performance-based effluent limitations in the proposed NPDES Permit.

DISCHARGER COMMENT NO. 3. Mercury Mass Loading Limitation

The Discharger states that the mercury performance-based mass effluent limitation included in the proposed NPDES Permit does not provide for an increase in the mass loading of mercury as the Facility expands its capacity from 1.8 to 5.0 million gallons per day (MGD). Therefore the Discharger requests that the mercury limit be increased accordingly. The Discharger further states that the mercury performance-based mass effluent limitation was also inappropriately calculated using an estimated average mercury effluent concentration (0.000019 mg/L) for the regionalization with the City of Marysville that does not account for the seasonal variability in mercury concentrations and loadings. Therefore, instead of the estimated average value, the Discharger also requests that the mercury limit be recalculated using the average effluent concentration for mercury (0.000027 mg/L) calculated by the City of Marysville and reported in the Discharger's Antidegradation Analysis.

Response: Existing Order R5-2006-0096 allows an increase in the Facility's permitted discharge of 5.0 MGD and established the mercury mass loading limit as 0.016 lbs/day, which was the same mercury limit for the permitted discharge of 1.8 MGD. The Central Valley Water Board at that time adopted this mercury mass limit to maintain the Discharger's current loading levels until a mercury TMDL is

adopted. Increasing the mercury mass limit based on the increased flow from 1.8 MGD to 5.0 MGD would not comply with State and federal Antibacksliding requirements, and therefore, the proposed NPDES Permit appropriately contains the same mercury mass limit of 0.016 lbs/day for the permitted discharge of 5.0 MGD.

However, to account for the regionalization with the City of Marysville, Central Valley Water Board staff recalculated the mercury mass limit based on the mercury concentration value used in the Discharger's antidegradation analysis and the increase discharge flow of 1.7 MGD from the City of Marysville Wastewater Treatment and Reclamation Facility. Accordingly, the proposed NPDES Permit contains a monthly mercury mass limit of 0.028 lbs per day.

DISCHARGER COMMENT NO. 4. Nitrate Plus Nitrite Effluent Limitation

The Discharger states that the Facility will have difficulty in meeting its proposed final nitrate plus nitrite limitation due to the Facility's recent installation of four air activated sludge basins (including nitrification and denitrification) that have yet to achieve optimal operation performance. Twenty-three samples obtained since start-up of the new treatment system exceed the nitrate plus nitrite effluent limitation of 10 mg/L as nitrate (N) in the proposed NPDES Permit. Therefore, the District requests a time schedule to provide the time needed to optimize the Facility's nitrification-denitrification processes and an interim effluent limitation for protection from the imposition of mandatory minimum penalties during this period.

Response: Central Valley Water Board staff agrees. Therefore the proposed Order amends Time Schedule Order R5-2011-0056 to contain a time schedule until 31 December 2012 to comply with the final nitrate plus nitrite effluent limitations contained in the proposed NPDES Permit and an interim effluent limitation of 60 mg/L as an average monthly.

The nitrate plus nitrite limit is contained in the existing Order with a compliance schedule until September 2011. The Discharger requested additional time to optimize the treatment system; however, in the 2011 TSO, the Board denied the time schedule and interim limit because the data at that time did not support their request. Now that the system is operating, the data does support their original request. The Discharger is now able to show that they are not able to comply with the existing limitation. Therefore a proposed time schedule extension has been included in the TSO amendment.

DISCHARGER COMMENT NO. 5. Removal of Chlorine Residual Effluent Limitations for Discharge to Percolation Ponds

The Discharger requests that the 4-day average (0.011 µg/L) and 1-hour average (0.019 µg/L) chlorine residual effluent limitations for discharges to the percolation ponds

(Discharge Point No. 002) be removed from the tentative NPDES Permit because the discharge of chlorine to the percolation ponds dissipates prior to the hydrological connection with the Feather River, and therefore does not represent a threat to freshwater aquatic life in the receiving water.

Response: Central Valley Water Board staff agrees and has made the corresponding changes to the proposed NPDES Permit.

DISCHARGER COMMENT NO. 6. Continued Temporary Discharge to Percolation Ponds

The Discharger requests that it be allowed to discharge disinfected, tertiary treated effluent to the percolation ponds for a limited 36-month period, beginning 31 December 2012, to allow for rehabilitation of the existing side bank outfall structure for the purpose of erosion protection prior to discharging to the Feather River. Once the side bank outfall structure is suitable for discharge to the Feather River, discharges to the percolation ponds only would occur under emergency conditions or upset (e.g., dechlorination failure) and when maintenance may degrade water quality.

Response: The proposed NPDES Permit already allows the Discharger to continue discharging to Discharge Point No. 002 (percolation ponds) indefinitely as long as all discharge requirements are met. No changes are necessary.

DISCHARGER COMMENT NO. 7. Change pH Effluent Limitation for Discharge to Percolation Ponds

The Discharger requests that the instantaneous minimum effluent limitation for pH for discharges to the percolation ponds (Discharge Point No. 002) be changed to 6.0 standard units from 6.5 standard units in the Basin Plan. The Discharger further comments that this change of lowering the instantaneous minimum effluent limitation for pH at the percolation ponds should not have a detrimental impact on groundwater due to the buffering capacity of the soil under the percolation ponds.

Response: In discussions with the Discharger, as the new upgraded treatment system came online, the pH in the pond influent has decreased. The Discharger is adding chemical additives solely to raise the pH to 6.5 standard units. Central Valley Water Board staff agrees that having the percolation pond influent pH of 6.0 does not have an impact to the minimum pH receiving water limit of 6.5 especially if doing so eliminates the need to add unnecessary chemical additives. Therefore, staff has made the corresponding changes to the proposed NPDES Permit.

Although the effective date of the proposed permit renewal is 50-days after the Board Adoption date, the tentative permit has been modified to make the new pH limits for pond influent, and corresponding monitoring requirements, effective

immediately upon adoption, and immediately replace the pH limitations and monitoring requirements in the current permit (which will be rescinded concurrently in the same action to adopt the new permit).

DISCHARGER COMMENT NO. 8. Change Required Submittal Date of Mixing Zone Validation Study

The Discharger requests that the submittal date for the mixing zone validation study be changed from the 1 July 2014 date in the tentative NPDES Permit to a date within 18 months after the District begins discharging from the newly rehabilitated side bank outfall to the Feather River (Discharge Point No. 001). The Discharger would still submit a work plan and schedule for conducting the study within six months of adoption of the proposed NPDES Permit.

Response: Central Valley Water Board staff agrees and has made the corresponding changes to the proposed NPDES Permit.

DISCHARGER COMMENT NO. 9. Removal of Chemical Additives Evaluation and Minimization Study

The Discharger requests that the Chemical Additives Evaluation and Minimization Study requirement from the tentative Order be removed because it is an unnecessary measure that may constrain the Discharger's operational flexibility.

Response: Central Valley Water Board staff agrees, and determined that the Salinity Evaluation and Minimization Plan will produce similar conclusions as the Chemical Additives Evaluation and Minimization Study. Therefore, the Chemical Additives Evaluation and Minimization Study requirement was removed from the proposed NPDES Permit.

DISCHARGER COMMENT NO. 10. Editorial Corrections

The Discharger requests the deletion of the word "*coagulated*" from the Tentative Order as the wastewater will not be coagulated by the upgraded treatment system. The reference to this term is found on page 31 of the Limitations and Discharge Requirements, and pages F-62 and F-108 of the Fact Sheet.

Response: Central Valley Water Board staff agrees and has made the corresponding changes to the proposed NPDES Permit.

The Discharger also requested that reference to EFF-002 within the Monitoring and Reporting Program of the proposed NPDES Permit be removed since it describes the monitoring location named "EFF-001" as the single compliance monitoring location for

effluent discharged to the Feather River (Discharge Point No. 001) or the percolation ponds (Discharge Point No. 002), and therefore, EFF-002 is no longer applicable.

Response: Central Valley Water Board staff has removed all reference to EFF-002 in the proposed NPDES Permit.

Item b. Flow on p F-21 of the Fact Sheet (Attachment F) contains a sentence that states, "Therefore, this Order contains an average dry weather flow effluent limit of 1.8 MGD applicable to discharges to the ponds at Discharge Point No. 001 as specified in Table 2. Discharge Locations on p. 2 of the Tentative Order. The above sentence should be changed to state "… discharges to the ponds at Discharge Point No. *002*."

Response: Central Valley Water Board staff agrees, and has corrected the discharge location to the ponds to correctly state Discharge Point No. 002 in the proposed NPDES Permit.

CVCWA COMMENTS

CVCWA COMMENT NO. 1. Dilution Ratio

CVCWA requests that the effluent limitations for bis (2-ethylhexyl) phthalate, carbon tetrachloride, dichlorobromomethane, manganese, and methyl blue active substances are calculated using a dilution ratio of 347:1, and, if truncating the effluent limitations is deemed necessary, make the appropriate findings in the proposed Order.

RESPONSE: Central Valley Water Board does not concur. Based on the mixing zone study, considering the available mixing and dilution in the Feather River under reasonable worst-case conditions, for bis (2-ethylhexyl) phthalate, carbon tetrachloride, dichlorobromomethane, manganese, and methyl blue active substances, a dilution credit of up to 347:1 may be allowed for tertiary discharge. The dilution credit was established based upon the historical performance of the Facility for each constituent (See Table F-7 – Dilution Credits Associated with Performance-based Effluent Limits), based on the following policies:

(1) In accordance with Section 1.4.2.2 of the SIP, mixing zones must be as small as practical, and
(2) In accordance with State and federal antidegradation policies, degradation of the receiving water downstream of the edge of mixing zone must be minimized by the implementation of Best Practical Treatment or Control.

Based on effluent data for bis (2-ethylhexyl) phthalate, carbon tetrachloride, dichlorobromomethane, manganese, and methyl blue active substance, the Discharger has demonstrated the Facility can consistently comply with the

maximum daily and average monthly effluent limits for each constituent. This represents mixing zones that are as small as practical for this Facility.

Although the Antidegradation Policy does not apply within a mixing zone, the allowance of a mixing zone allows an increase in the concentration and loading of pollutants discharged. Therefore, when a mixing zone and dilution credits are allowed, it is necessary to ensure the degradation of the receiving water downstream of the mixing zone complies with the Antidegradation Policy. The Antidegradation Policy requires, in part, the following:

> "*Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the* ***best practicable treatment or control of the discharge*** *necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained." (Emphasis added)*

The Antidegradation Policy requires that a discharge shall meet best practicable treatment or control (BPTC), which in this case for bis (2-ethylhexyl) phthalate, carbon tetrachloride, dichlorobromomethane, manganese, and methyl blue active substances are, at minimum, existing facility performance. Allowing the full dilution credit would allow the Discharger to increase its loading of these constituents to the Feather River (downstream of the mixing zone) and reduce the treatment and control of the pollutant. Allowing a discharger to reduce the level of treatment and/or control would not comply with the BPTC requirements of the Antidegradation Policy.

Clarifying language has been added to the Fact Sheet of the proposed Order regarding truncating the maximum dilution for bis (2-ethylhexyl) phthalate, carbon tetrachloride, dichlorobromomethane, manganese, and methyl blue active substances.

CVCWA COMMENT NO. 2. Chemical Additives Evaluation and Minimization Study

CVCWA requests the deletion of the requirement for the Discharger to perform a chemical additives evaluation and minimization study.

RESPONSE: See Discharger Comment No. 9.